

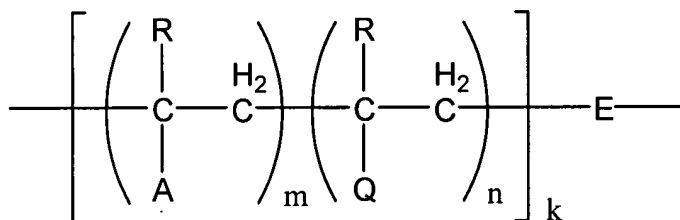
AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A copolymer comprising:

a polyethylene segment which is a main chain;

a reactive silicon-containing group which is a side group of the polyethylene segment; and

a polycondensation segment bonded to the polyethylene segment, which is a part of the main chain together with the polyethylene segment or a side chain with respect to the polyethylene segment[[.]], which comprises a repeating unit represented by the following formula



wherein,

A is a reactive silicon-containing group,

R is each independently a hydrogen atom or an alkyl group having 1 to 8 carbon atoms,

Q is a group compatible with the reactive silicon-containing group,

E is a polycondensation segment which is a part of a main chain, or a polyethylene segment having a polycondensation segment as a side chain,

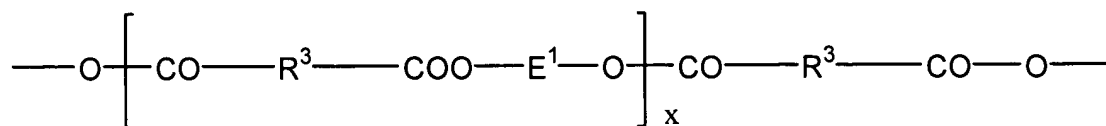
m is an integer of 1 or more,

n is an integer of 0 or 1 or more,

k is an integer of 1 or more, and

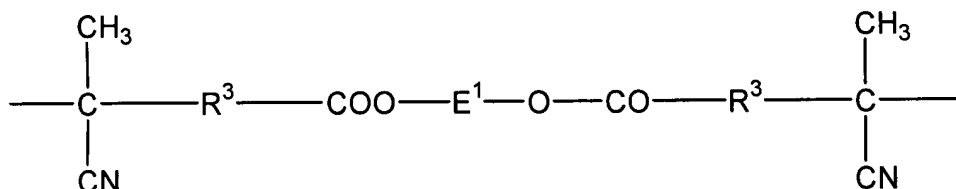
E shows a structure selected from the group consisting of,

Formula (1)



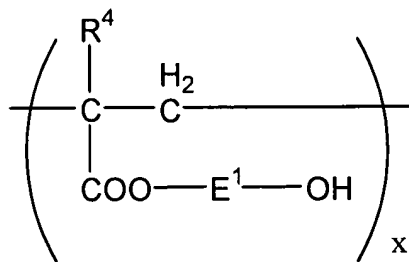
wherein, E¹ is a polycondensation segment, R³ is each independently an alkylene group having 1 to 10 carbon atoms or an arylene group having 6 to 20 carbon atoms, and x is an integer of 1 or more;

Formula (2)

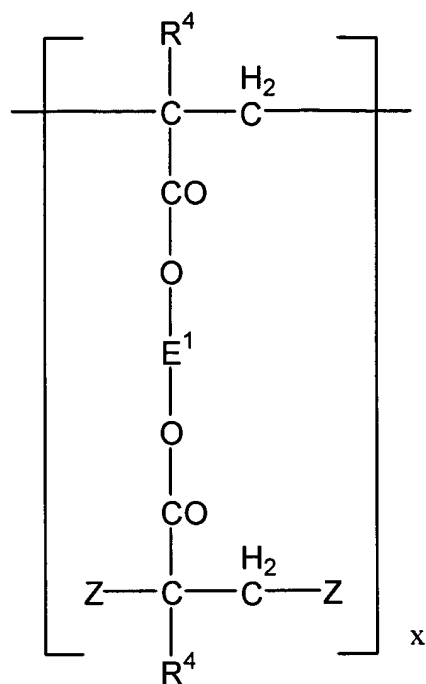


wherein, E¹ and R³ are the same as defined above;

Formula (3)



wherein, E¹ is the same as defined, R⁴ is a hydrogen atom or an alkyl group having 1 to 8 carbon atoms, and x is the same as defined as above; and

Formula (4)

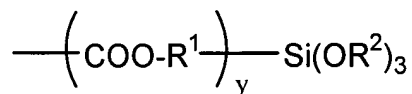
wherein, E¹, R⁴ and x are the same as defined above, and Z is each independently a segment of another polymer.

2. (Cancelled)

3. (Currently Amended) A copolymer according to Claim 1-~~or~~ 2, wherein said reactive silicon-containing group is an alkoxysilyl-containing group.

4. (Currently Amended) A copolymer according to Claim 1-~~or~~ 2, wherein said polycondensation segment is a segment of polycarbonate, polyarylate or polysulfone.

5. (Currently Amended) A copolymer according to Claim 1-2, wherein said A has a structure represented by the following formula



wherein, R¹ is an alkylene group having 1 to 10 carbon atoms or an arylene group having 6 to 20 carbon atoms, R² is an alkyl group having 1 to 10 carbon atoms, and y is 0 or 1.

6-7. (Cancelled)

8. (Currently Amended) A copolymer according to Claim 1-2, wherein said Q is a hydrogen atom, a carboxyl group, an alkoxy carbonyl group having 1 to 9 carbon atoms, an alkyl group having 1 to 8 carbon atoms, an aryl group having 6 to 20 carbon atoms or a halogen atom.

9. (Currently Amended) A method of producing a copolymer according to Claim 1—~~or~~—2, comprising the step of radical-polymerizing a monomer mixture containing an unsaturated monomer having a reactive silicon-containing group and an unsaturated monomer compatible with said reactive silicon-containing group by using a macropolymerization initiator having a polycondensation segment.

10. (Currently Amended) A method of producing a copolymer according to Claim 1—~~or~~—2, comprising the step of radical-polymerizing a monomer mixture containing an unsaturated monomer having a reactive silicon-containing group, an unsaturated macromer having a polycondensation segment and an unsaturated monomer compatible with said reactive silicon-containing group.

11. (Previously Presented) A method according to Claim 9, wherein said reactive silicon-containing group is an alkoxysilyl-containing group.

12. (Previously Presented) A method according to Claim 9, wherein said polycondensation segment is a segment of polycarbonate, polyarylate or polysulfone.

13. (Previously Presented) A method of producing an organic-inorganic hybrid polymeric material, comprising the step of hydrolyzing and polycondensing the copolymer according to Claim 1.

14. (Previously Presented) A method of producing an organic-inorganic hybrid polymeric material, comprising the step of hydrolyzing and polycondensing the copolymer of Claim 1 in the presence of a metal, a metal alkoxide compound, a metal oxide, a

metal complex or an inorganic salt selected from the group consisting of Si, Ti, Zr, Al, Fe, Cu, Sn, B, Ge, Ce, Ta and W.

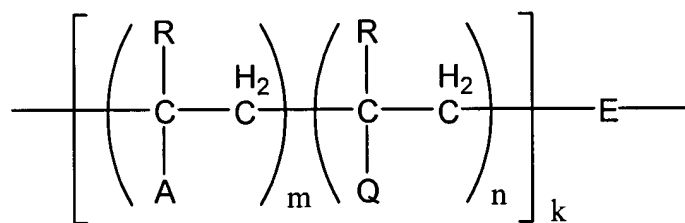
15. (Original) An organic-inorganic hybrid polymeric material produced by the method according to Claim 13 or 14.

16. (New) A copolymer comprising:

a polyethylene segment which is a main chain;

a reactive silicon-containing group which is a side group of the polyethylene segment; and

a polycondensation segment bonded to the polyethylene segment, which is a part of the main chain together with the polyethylene segment or a side chain with respect to the polyethylene segment, which comprises a repeating unit represented by the following formula



wherein,

A is a reactive silicon-containing group,

R is each independently a hydrogen atom or an alkyl group having 1 to 8 carbon atoms,

Q is a group compatible with the reactive silicon-containing group,

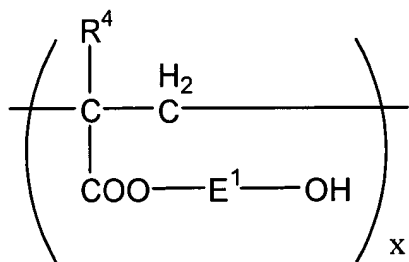
E is a polycondensation segment which is a part of a main chain, or a polyethylene segment having a polycondensation segment as a side chain,

m is an integer of 1 or more,

n is an integer of 0 or 1 or more,

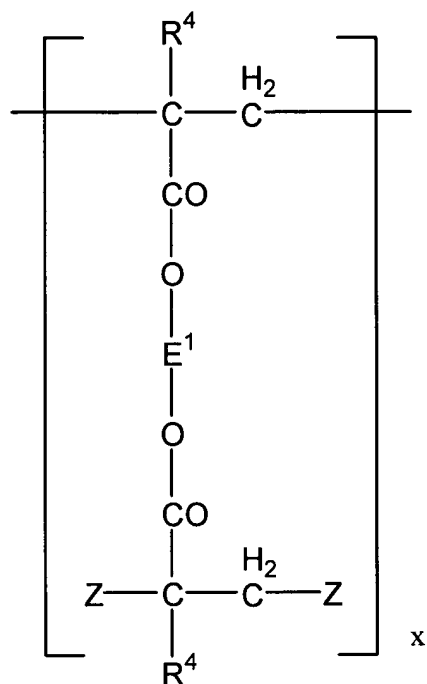
k is an integer of 1 or more, and

E has a structure represented by the following formula



wherein, E¹ is a segment of polycarbonate, polyarylate or polysulfone, R⁴ is a hydrogen atom or an alkyl group having 1 to 8 carbon atoms, and x is an integer of 1 or more;

or the following formula



wherein, E^1 , R^4 and x are the same as defined above, and Z is each independently a segment of another polymer.